

J. W. Ogle Esq. M.D.
With the Author's compliment

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CHOLERA

A

DISEASE OF THE NERVOUS SYSTEM

BY

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WORKS BY DR. CHAPMAN.

Cases of Diarrhœa and Cholera treated successfully through the Agency of the Nervous System, chiefly by means of the Spinal Ice-bag. 8vo, 1s. 6d. London: Baillière, Tindall & Cox, 1871.

From the "Medical Times and Gazette," Feb. 17, 1872.

" . . . The author having proposed his method of treatment, has in the next place to determine its actual value in practice; he accordingly completes his case by bringing forward a large body of evidence to show that his method, when carried out by attendants with the minute care he has a right to enjoin upon them, is, if not uniformly, at any rate very largely successful. . . . We must say that his statements are backed by very strong evidence used with much knowledge and skill—so much so, indeed, that they cannot be overlooked, but claim our instant attention. . . . We cannot but be pleased to think that the evidence is most strong in support of that one position in which we are most immediately interested—namely, that the ice treatment is successful. This surely is the main point, and in the face of the miserable results obtained under the use of other methods, we cannot but form a favourable estimate of the alternative treatment here proposed. . . . And although we fortunately have no experience of Cholera thus treated, yet in fairness to Dr. Chapman, we ought to say that we have found the ice-bag very useful in some other disorders. For example, we have found it strikingly successful in maniacal conditions, when applied to the cervical region; in sympathetic vomiting likewise, and in other conditions too numerous now to mention."

From the "Medical Press and Circular."

"Dr. Chapman has the undoubted merit of originating a system of treatment which we believe is of great practical value. We are satisfied of the truth of his assertion, that the condition of the viscera of the thorax and abdomen can be modified to a considerable extent by the external application of heat and cold to the spine. We have ourselves observed the advantages of Dr. Chapman's method of treatment in sea-sickness. In the stages of bronchitis where the breathing is dry and tubular, Dr. Chapman's hot-water bag often causes marked relief, and the increased secretion of mucus from the bronchial tubes seems to be proved by the greater softness of the breathing which may be ascertained to follow in a few minutes by auscultation. . . . The pamphlet is in a readable form, and shows both great scientific knowledge and practical sagacity."

From the "Edinburgh Medical Journal," July, 1872.

"A readable and persuasive pamphlet. We should like to see Dr. Chapman's views fully tested."

Neuralgia and Kindred Diseases of the Nervous System: their Nature, Causes, and Treatment; also a Series of Cases, preceded by an Analytical Exposition of them, exemplifying the Principles and Practice of Neuro-Dynamic Medicine. 8vo, cloth, 14s. London: J. & A. Churchill, 1873.

Sea-Sickness, and how to Prevent it: an Explanation of its Nature and Successful Treatment, through the Agency of the Nervous System, by means of the Spinal Ice-bag. With an Introduction on the General Principles of Neuro-Therapeutics. 8vo, cloth, 3s. London: Trübner & Co., 1868.

Functional Diseases of Women: Cases Illustrative of a New Method of treating them through the Agency of the Nervous System, by means of Cold and Heat. Also an APPENDIX, containing Cases Illustrative of a New Method of treating Epilepsy, Infantile Convulsions, Paralysis, and Diabetes. 8vo, price 2s. 6d.

Chloroform and other Anæsthetics: their History and Use during Childbirth. 8vo, price 1s. London: Trübner & Co.

CHOLERA, A DISEASE OF THE NERVOUS SYSTEM.

*To the Editor of the "Journal de Médecine de Paris."**

SIR,—Perhaps the following observations and records of experience respecting cholera may prove welcome to those of your readers who take any interest in the important problems connected with its nature, origin, prevention, and treatment.

In the autumn of 1865 Cholera appeared in an epidemic form in Southampton. Being anxious to test certain views which I hold respecting the etiology and treatment of the disease, I hastened thither, was kindly received by the principal medical men of the town, to whom I explained those views, and who were good enough to invite me to treat several cases of cholera which they placed at my disposal.

The characteristic features of the treatment adopted consists in the application of heat to the general surface of the body as persistently as possible, and, *simultaneously*, the application of cold, by means of a spinal ice-bag, full of ice, along the whole of that part, and of that part only, of the spinal column which is co-extensive with the spinal cord—during the presence of vomiting, purging, cramps, or algidity. After these symptoms have been subdued and reaction has been thoroughly established, that reaction is controlled, in those cases in which it becomes excessive, by the application of heat along some part or the whole of the spine.

The doctrine from which the treatment here indicated, in outline, is the logical outcome, is that the proximate cause of all the phenomena of cholera (before the stage of reaction) is hyperæmia (active sanguineous congestion), with consequent excessive action, of the spinal cord, and of the ganglionic, or sympathetic, nervous system.

* A French version of this letter was published in the *Journal de Médecine de Paris*, August 25, 1883.

During my stay of one week at Southampton in 1865 I treated seven patients: five of these recovered, and two died.

But even in the fatal cases the facts observed during their treatment attested in a striking manner the great remedial power of the method adopted. In both cases the vomiting, purging, cramps, and algide symptoms were completely overcome. A fatal result, however, in each case, was almost inevitable: of the two patients one was an habitual drunkard, who drank gin to the last; and the other was an old woman, aged seventy-three, who, owing to poverty, had been living at almost starvation point for some time before she was attacked.

Now, the total number of cholera cases in Southampton and its neighbourhood, which were not treated at all by means of ice, during the epidemic of 1865 was 50. Of these, 31 proved fatal. The comparative results if stated in decimals, are therefore as follows:—Of 50 cases treated by the ordinary methods, 62 per cent. proved fatal. Of 7 cases treated by me, 28 per cent. proved fatal. I may add that whatever was the average degree of severity of the 50 cases treated by the ordinary methods, the average degree of severity of the 7 cases which I treated was, I have reason to believe, greater: for, very properly, there was a feeling on the part of the medical men who allowed me to treat cases that only those which were severe enough to be satisfactory tests of the validity of my method should be submitted to it. The severe cases just mentioned are all carefully described in my books entitled, respectively, “Diarrhoea and Cholera,” and “Cases of Diarrhoea and Cholera.” Each of those cases presented in a decided form the cardinal symptoms of cholera—viz., vomiting, purging, cramps, and that assemblage of conditions well expressed by the term *algide*, and the predominant feature of which is, of course, coldness—in some cases deathlike coldness—of the surface of the body. Now, in every one of those 7 cases each of those cardinal symptoms was made to disappear. This assertion is confirmed in the most authoritative manner possible—viz., by the medical men who had the care of the patients in question and who watched my treatment of them—not only from day to day, but almost from hour to hour. Here is their testimony:—

“Dr. Chapman’s treatment of cholera proved itself a remedy of very considerable power; restoring the heat, relieving the cramps, checking the vomiting and purging. Its use was followed by reaction from collapse, even in cases where the patient was quite pulseless.

“This treatment appears to have the great advantage of

producing reaction from the state of collapse, leaving the patient free from the very large quantities of medicines which in other modes of cure so fatally hamper the treatment of the secondary fever."—G. A. LAKE, M.D., *Surgeon to the Royal South Hants Infirmary, &c. &c.*

"The five cases in which I had the good fortune of witnessing the application of the spinal ice-bags by you, have sufficiently convinced me of their utility in rousing the patients from collapse and removing the algide symptoms of cholera."—G. CHEESEMAN, *Physician and District Medical Officer to the Southampton Incorporation.*

"The power [of the treatment in question] to relieve the vomiting, purging, and cramps is almost marvellous ; and its influence over the circulation, in restoring heat to the surface of the body, and in bringing back the pulse where nearly, and in some cases entirely, gone, must be seen in order to be properly appreciated.

"For my own part, I have such entire confidence in the method of treatment that should any more cases of cholera come under my care, I shall without hesitation trust to it alone ; and were I to be attacked with cholera, I would insist on being treated entirely by your method."—HENRY BENCRAFT, M.R.C.S.A., L.S.A., *Medical Officer to the Southampton Workhouse.*

"I have now seen and treated, with Mr. Bencraft and Dr. Cheeseman, six cases of cholera, in the stage of collapse ; and what I have witnessed and noted in these cases justifies me in stating that your treatment is superior to any that I have hitherto seen practised or pursued by myself or others.

"Based as your treatment is on sound physiological principles, it deserves a fair and impartial trial ; but all your injunctions must be strictly carried out.

"Were I seized with cholera, I should give your mode of treatment a preference ; indeed, I would submit to no other."—JOHN WIBLIN, *Physician.*

In July, 1866, after a further experience of the treatment in question, Mr. Bencraft again expressed to me his conclusions respecting it as follows :—"If I were attacked with cholera I should still wish to be treated with ice ; but I should like to have it applied earlier than seemed to me necessary last year." And at the same time Dr. Griffin said to me : "It stops the cramps, vomiting, and purging ; it makes the patients warm, and it

prolongs life." These two gentlemen, who had charge of nearly all the patients at Southampton treated by ice in 1866, made these remarks to me in the presence of each other. The experience of 1866 at Southampton confirmed, therefore, that of 1865. Now, I ask: Is there within the range of professional knowledge any remedy for choleraic collapse except the treatment I have proposed, of which it can be truly said, "It stops the cramps, vomiting, and purging ; it makes the patients warm, and it prolongs life"? And I also ask : If it does these things, does it not achieve the very desiderata which a real remedy for cholera ought to achieve, and the power of achieving which has long been sought for—viz., the *annihilation of the cardinal elements constituting the disease*, leaving the patient free at the same time, as Dr. Lake justly observes, "from the very large quantities of medicines which in other modes of cure so often fatally hamper the treatment of the secondary fever"?

In many cases of cholera its attacks are gradual and insidious ; in many other cases they are swift and violent ; but whether they be gradual or sudden there is urgent need that the defence be both prompt and powerful. How is it possible, however, that any medicine administered internally to patients who are the victims of almost continuous vomiting and diarrhoea can so operate as to be at once prompt and powerful? As a rule, medicines given to such patients are speedily rejected ; and in the small proportion of cases in which they are retained by patients in choleraic collapse they usually remain inert until the patient dies, or until reaction sets in, when, only too often, they "fatally hamper the treatment of the secondary fever." It is clear, therefore, that, as defensive or counteractive agents in presence of cholera, drugs are not only useless—they are worse than useless. On the other hand, the applications of heat or cold, or of both, to various parts of the surface of the body are always practicable ; and if they avail to arrest the march and resist the attacks of the disease they seem to be peculiarly fitted to operate as effective substitutes for the ordinary remedial methods—which are, confessedly, powerless to cope with or withstand the choleraic plague.

In conclusion, I invite the reader's attention to the rapidity, as well as completeness, with which the chief symptoms of cholera are overcome by the treatment in question, *and, especially, to the significance of that rapidity in respect to the nature of the proximate cause of cholera.* For explicit evidence of that rapidity, which in this letter I must content myself with affirming as a fact, I beg to refer to the histories of cases carefully recorded in my works—"Diarrhoea and Cholera," and "Cases of Diarrhoea

and Cholera," respectively. Now, if *within a few hours* agonizing cramps in the abdomen and extremities, together with violent and almost incessant vomiting and diarrhoea, can be put an end to ; if a patient who is deadly cold, his very breath being cold, can be rendered warm all over ; if his circulation, when so far arrested that he is pulseless, can be thoroughly re-established ; if, being voiceless, his voice can be restored ; and if his sunken eyes and shrunken features can be made to present an increasingly normal aspect by the application of a *purely dynamic agent*—viz., heat, of some degree not lower than 32° , and not necessarily higher than 120° Fahrenheit—does it not seem likely that the malady itself, of which these conditions are merely expressions, is in no sense of the term due to a blood-poison ("cholera poison") or to "cholera germs" ? that, on the contrary, it is of a purely dynamic nature ? and that the dynamic perturbation is originated in the nervous system by various causes (but chiefly thermal, probably also electric) capable of operating powerfully on that system ? I answer these questions confidently in the affirmative, and, accordingly, I maintain—

1. That, though in exceptional cases cholera may present itself associated with a blood-poison, it is not, as a general rule, the product of such a poison.
2. That no proof of the existence of the so-called "cholera poison" has ever been adduced, and that there are very strong reasons for believing that it exists only in the imagination of certain pathologists.
3. That the so-called "cholera germs" are as exclusively hypothetical as is the "cholera poison" itself.
4. That cholera does not "travel," as it is said to do, from place to place.
5. That cholera originates *de novo* in any place where certain definable conditions co-exist.
6. That (though in the focus of a cholera epidemic the influence generating the disease is often felt by persons who are not actually attacked by it, and though, when that influence tends to render all within the sphere of it liable to attack, the emanations of cholera patients, like any other foul or unwholesome emanations, may operate as exciting causes of the disease) there are very strong reasons for believing that cholera is neither infectious nor contagious.

7. That the international regulations by which governments attempt to resist invasions of cholera are no defence whatever against its attacks, whereas its development and continuance are, probably, often favoured by the enforcement, in respect to it, of the futile, and therefore unjustifiable, laws of quarantine.

8. That, though their exciting causes are numerous and various, cholera (whether "Asiatic," African, European, or American), the so-called "cholerine," the summer diarrhoea of temperate climates, and the "cholera-infantum" of the United States, are really one and the same disease; that these several kinds of it are only the different expressions of the different degrees of intensity with which the force causative of them operates, and that they are all, alike, essentially, invariably, and exclusively, phenomena of preternatural excitement of the nervous system; and, finally,

9. That the *main element* of any rational treatment of cholera consists in exerting a powerful and exclusively sedative influence, *as directly as possible*, and *at the same time*, both on the sympathetic nervous centres and on the spinal cord.

I am, Sir,

Yours truly,

JOHN CHAPMAN, M.D.

Paris, 224, Rue de Rivoli.

REVIEWS OF DR. CHAPMAN'S WORK ON
DIARRHŒA AND CHOLERA;

Their Nature, Origin, and Treatment through the Agency of the Nervous System.

Second Edition, enlarged, 8vo, cloth, 7s. 6d. London; Trübner & Co. 1866.

REVIEW BY

SIR ANDREW CLARK, BART., M.D.,

REPRINTED FROM

"*The Medical Times and Gazette,*" of November 3, 1866.

"This is a remarkable book, and worthy the serious attention of every one of our readers who has the leisure and inclination to think out his own opinions upon an interesting and difficult subject. We do not say that the theory of cholera which the author proposes is correct, or that the treatment based upon it is sound. Such an admission is not necessary to justify our recommendation. Even a false theory when rightly constructed has its uses, and, instead of hindering, hastens the advance of knowledge. Every one possessing the slightest acquaintance with the history of astronomy knows that the doctrines of cycles, epicycles, and ellipses were begotten naturally and necessarily out of each other, and that if Kepler had not so often propounded speculative errors, Newton would not so often have hit upon speculative truth. When men of science disclaim hypotheses, they are either unfit for their vocation, or, like Newton, they are better than their creed. Hypotheses are at once the effects and causes of progress; and one might as well attempt to preserve and employ an army without organization, as to preserve and employ phenomena without a theory to weld them into one. But the theory must be provisionally, if not positively, true; it must be intelligible and consistent; it must explain a greater number of facts and reconcile a greater variety of apparent contradictions than any which has preceded it, and it must have become developed, not by the addition merely, but the addition and solution, of subsidiary explanations.

"Now the book before us contains a speculation which, whether true or false, exhibits in its outlines, if not in its details, the essential features of a well-constructed theory. It is in

harmony with the results of the most recent physiological investigations; it is ingenious, clearly put, happily illustrated, logically argued, and meant to be a more comprehensive and simple explanation than has yet been given of the phenomena of choleraic disease. For these reasons we have considered it our duty to place at once before our readers a sketch of Dr. Chapman's work, and to give judgment on its general character.

"The introduction to Dr. Chapman's book is occupied by a sketch of his views of neuro-physiology, and as they properly constitute the root of his pathology, it is necessary to consider them. He sets out with two postulates—first, that the sympathetic is the excito-motor nerve presiding over the vascular system; and secondly, that the functional activity of every gland is excited or maintained by a stimulus sent from the cerebro-spinal axis. The former doctrine, which derives its claims to assent from the experiments of Brown-Sèquard and Claude Bernard, is now, with certain qualifications and restrictions, accepted as true by nearly all physiologists. The latter, based upon the recent discoveries of Bernard, Ludwig, Pflüger, and others, has, as Dr. Chapman thinks, been raised to the rank of a general law by his own observations.

"Bernard has proved that the parotid and submaxillary glands receive their nervous supplies, on the one hand from the cerebro-spinal system, and on the other from the sympathetic; and he has demonstrated by experiments on various animals that when the former are in action the maximum of blood is supplied to the glands and the maximum of saliva secreted, and that when the latter are in action it is shown in modifying the volume of the arteries and so regulating the supply of blood. Dr. Chapman has extended this discovery to all the other glands of the body; but in virtue of some experiments about to be mentioned, he puts an interpretation quite different from that of Bernard upon the purpose of the cerebro-spinal gland nerves. The latter conceives that they act by producing a kind of paralysis of the sympathetic; the former that they act by stimulating the gland-cells to the active selection from the blood of the materials essential to the elaboration of their secretions.

"According to Dr. Chapman's statements, he has discovered that the application of heat along the spine stimulates the glands of the whole cutaneous and mucous surfaces, and that conversely the application of ice restrains or depresses them; that in the former case the secretion is increased, in the latter diminished or suppressed. Seeing, then, that secretions are arrested when the surfaces are full of blood, and abundant often when the surfaces

are anæmic, he proceeds to reconcile and explain these apparent paradoxes by propounding the hypothesis that the mucous and cutaneous glands act under the control of a special set of nerves distinct from the sympathetic, and derived from the cerebro-spinal system. He conceives that while the sympathetic regulates the amount of blood entering the gland, the cerebro-spinal nerves, by their action on the gland-cells, determine the intensity of the force by which it is attracted to them ; and in this way he shows that glandular activity and glandular inaction are due, in the former case, to a preponderance of cerebro-spinal, and in the latter to a preponderance of sympathetic, nerve force. The cerebro-spinal he calls the positive motor, and the sympathetic the negative motor, nerves of a gland ; and it is by assuming an excessive stimulation of the former, causing the gland-cells to draw copious currents of blood through the obstruction of spasmodically constricted arteries, that he ingeniously explains the seemingly paradoxical but common phenomenon of an anæmic skin pouring forth a greasy sweat.

"Dr. Chapman next passes in review the anatomical nerve relations of the various glands, and concludes that the disposition of the nervous system is such as to enable every one of them to receive a positive motor nerve from some part of the cerebro-spinal system, and holds 'that in every case in which glands are not yet proved by anatomical evidence to possess positive motor nerves from the cerebro-spinal system, physiological, pathological, and even therapeutical facts prove that they must be so innervated, while anatomy offers no evidence whatever to the contrary.'

"Having laid down these physiological foundations, Dr. Chapman proceeds to build thereon his remarkably ingenious theory of cholera. To this he might happily have prefixed for motto the axiom of Newton—'Causas rerum naturalium non plures admitti debere, quam quæ et veræ sint et earum phænomenis explicandis sufficient ;' or, still more happily, the assertion of Bernard, who, when speaking of the nervous system, says with a sublime audacity that 'while it is the origin of all the normal phenomena of life, it is also the origin of all pathological action.' This theory will be most clearly expressed in the form of the following propositions :—

"1. All the phenomena of cholera are due to simultaneous hyperæmia of the spinal cord and of the sympathetic nervous system.

"2. All the phenomena of cholera are naturally divisible into two classes, according as they have their origin in the sympathetic ganglia or in the spinal cord.

"3. All active or positive phenomena are due to hyperæmia of the spinal cord.

"4. All passive or negative phenomena are due to hyperæmia of the sympathetic.

"As illustrations of what Dr. Chapman means by positive phenomena, we may mention early diuresis, excessive activity of the intestinal follicles, sweating, cramps, and internal elevation of temperature. As illustrations of negative phenomena may be specified arrest of secretion, aphonia, depression of external temperature, cold breath, loss of cutaneous sensibility, and serous exudation.

"The author neither directly affirms nor denies any primary affection of the blood in cholera. By implication, however, it is denied; and the only logical conclusion to be drawn from his facts, arguments, and illustrations is, that the exciting causes of this disease, whatever they may be, exert their primary action immediately upon the nervous system.

"It is only by a close examination of the detailed application of the hypothesis as a means of rendering intelligible the proximate cause of every special symptom that a comprehensive conception of the hypothesis becomes possible. We must content ourselves with the following examples:—

"A copious secretion of pale urine is mentioned by Parkes and others as one of the early symptoms of cholera. Dr. Chapman attempts to prove that this is due to hyperæmia or exalted functional activity of the spinal cord, and maintains that in the onset of cholera the cord is in this condition, stimulating the kidneys to excessive action. But the activity of the organic processes being less energetic than normal, owing to hyperæmia of the sympathetic, which has contracted the arteries, the metamorphosis of tissue is correspondingly lessened, and consequently the amount of the products of organic disintegration usually excreted by the kidneys is less than in health. It is thus, according to our author, inevitable that the conjoint hyperæmia of the sympathetic ganglia and spinal cord results in the discharge of urine paler and more abundant than normal. But as the disease progresses, the negative motor nerve of the kidneys—that is, the branches of the sympathetic distributed to the renal arteries—acts so energetically upon the blood-vessels as almost wholly to cut off the supply of blood to the kidneys. The inevitable result of this is cessation of their functions, or, in other words, the suppression of urine. When patients begin to recover, hyperæmia of the sympathetic ganglia subsides, and in consequence the spasmotic contraction of the renal arteries is relaxed, blood gains free access to the gland-cells, and the secretion of urine returns. If the

sympathetic ganglia become very anaemic or much exhausted, or if the positive motor nerve of the kidney be much stimulated, the kidneys become excessively congested, and albumen passes into the urine. In this way Dr. Chapman ingeniously accounts for the increase, decrease, and final suppression of urine in cholera ; for the return of this secretion with reaction ; and for the condition of the kidneys observable in cases of death during collapse.

"Dr. Chapman's mode of accounting for the rice-water evacuations of choleraics is as follows :—He affirms that, owing to excessive hyperæmia of the spinal cord, the mucous glands of the stomach and bowels are intensely stimulated ; that the energy of the positive motor nerves by which they are so stimulated predominates greatly over that of the negative motor nerves of these glands ; that consequently copious currents of blood are drawn to them, notwithstanding the constringing force exerted upon their arteries by the sympathetic ; that mucus is secreted in enormous quantities ; and that the cells of the secreting structures are generated, developed, and shed abortively in extreme abundance. He cites evidence to prove that the flocculent portions of the discharge consist of mucous flakes entangling a countless number of imperfectly formed and prematurely shed cells. With respect to the watery part of the evacuations, he says it is not secreted but exuded from the congested venous radicles of the whole alimentary canal. He adds that, inasmuch as its glands are exceedingly active, they, by the force exerted on the blood in their capillaries, press it forward continually into the intestinal veins, which speedily become extremely distended, and that as the blood is hindered from passing freely through the liver, now in a condition like that of the kidneys, the venous radicles become so distended that their delicate coats can no longer resist the pressure of their contents, the watery part of which escapes into the alimentary canal.

"We are unable to give any further illustrations of Dr. Chapman's method of accounting for the production of the symptoms of cholera. Each receives a consistent and intelligible explanation, but we would direct the reader's attention more particularly to his exposition of the immediate cause of the increase or persistence of heat in the body after death ; of the rise of temperature in certain parts before dissolution ; of post-mortem muscular contractions ; and of the differences in the relative activity of the positive and negative motor nerves in different cases.

"We must pass over the chapter on the causes of Cholera, which displays great originality and ingenuity in reconciling and explaining the various modes of action of causative agencies, and

a singularly happy power of using his knowledge for the setting forth of new analogies, and the bringing together apparently the most contradictory phenomena for the support of a general law.

"The chapter on treatment consists of two parts. In the first Dr. Chapman discusses the remedial value of cold and heat; in the second, the value of various drugs.

"If Dr. Chapman's theory of cholera should turn out to be correct, it would seem obvious that the only rational treatment consists in the adoption of such means as will most rapidly and completely subdue the hyperæmia of the spinal cord and sympathetic ganglia and re-establish the healthy equilibrium of the circulation. Dr. Chapman thinks that the time may come when this will be effected by the proper application of galvanism; but he maintains that in the present state of knowledge there is 'no available power of subduing hyperæmia of the automatic nervous centres comparable to that of ice applied along the spine.' In proof of this, he appeals to the testimony recorded by himself and others that 'the leading symptoms of cholera—vomiting, purging, coldness, and cramps—when met with separately as manifestations of other diseases, are capable of being subdued in the majority of cases by the application of ice along the whole or a part of the spine.'

"Dr. Chapman's treatment of cholera consists essentially in the application of ice to the spine and of heat to the general surface: and he is emphatic in insisting that the one should not be used without the other. As importance is attached to the exact manner in which this method of treatment is tried, it is but fair that those intending to test the value of Dr. Chapman's therapeutical proposal should make themselves familiar with what he says before beginning their experiments.

"The work concludes with a record of cases and an analysis of results.

"Whatever may be the final judgment pronounced upon Dr. Chapman's theory of cholera, it must be admitted that he has said nearly all that could be said in its favour. Its strength lies in its comprehensive and simple explanation of seemingly contradictory phenomena by the application of a recognized general truth; its main, and in our eyes great, weakness lies in the denial of any primitive affection of the blood. But even if wholly false, the theory will play an important part in the discovery of that which is true. The work is well-written, methodically arranged, connected in all its parts by a pervading unity of design, and will take a permanent place in the history of the disease of which it treats."

From the "Medical Press and Circular," Nov. 6, 1867.

"The part of Dr. Chapman's work devoted to cholera comprises six chapters, entitled respectively—(1) Definition, History, and Symptoms ; (2) Post-mortem Phenomena in Cases of Death during Choleraic Collapse ; (3) Pathology of Cholera ; (4) Causes of Cholera ; (5) Treatment, comprising (a) treatment by cold and heat, and (b) treatment by medicines ; (6) Cases and Results. Chapter I. we must pass over altogether. Chapter II. contains a concise yet detailed description of all the recognized phenomena observable after death during collapse ; and every one of these, as well as the several symptoms of the disease characteristic of its successive stages, receives an elaborate and complete explanation in the course of Chapter III., which is distinguished alike by the originality of the views it expounds, the ingenuity and cogency of the arguments by which they are enforced, the faithfulness to well-established facts which by way of confirmation or explanation are referred to at every step, and by the mastery with which the author co-ordinates and uses his abundant materials for the establishment and maintenance of his doctrines.

"Unable to dwell longer on the author's strikingly original exposition of what he calls the negative phenomena of cholera, we select for quotation a few paragraphs which throw a flood of light on certain facts which, thoroughly established, have hitherto remained as utterly inexplicable as they are astonishing.

"Whatever doubts may be entertained concerning Dr. Chapman's etiology of cholera, there can be none as to the consummate skill with which the facts adverted to in each section of this chapter are ranged and presented so as to establish the doctrine which the author advocates. The various influences enunciated have been adverted to by many previous writers, but, so far as we are aware, the several links in the chain of causation by which these influences produce the phenomena of cholera have never before been exhibited : it is in this respect that the chapter under consideration displays an amount of insight and originality, as well as logical cogency, which cannot fail to commend it to every philosophical mind. It is one thing to see that there is some causal connection between great atmospheric heat, wide ranges of temperature, prolonged marches, and influences operative during the night, on the one hand, and the origination of cholera on the other ; but it is quite another thing to show distinctly, and in detail, the *modus operandi* of these agencies ; this achievement, in respect to each agent discussed, constitutes the characteristic excellence of Dr. Chapman's elaborate exposition."

From the "Medical Mirror," March, 1867.

"The light thrown by these original ideas on the phenomena in question during the successive stages of cholera must, we think, impress every reader with the conviction that the hypothesis propounded by Dr. Chapman, whether absolutely true or not, at least affords a complete solution of a pathological problem of the first magnitude, and fulfils all the requisites which a true explanation supplies. . . . It embodies a great amount of novel truth; it is ingenious, well-reasoned, admirably supported, and not only in harmony with, but in advance of, the results of the highest investigations of the time. The subject is treated with real perspicuity and candour, and with a remarkable desire to appreciate every fact at its true value; and the work, as a whole, lacks nothing that is needed to make it a rare specimen of the application of the severest logic, and the most precise manipulation of language to practical science. Indeed, the book is characterized not only by great ability, by originality of thought, by judicial acumen, and by familiarity with the spirit and tendencies of modern research, but also by a rare power of reconciling apparently contradictory phenomena, and marshalling them together for the support of a common purpose."

From the "Journal of Mental Science," Jan. 1867.

"Dr. Chapman applies his well-known views of the pathology of disease, and of its treatment through the agency of the nervous system, with wonderful ingenuity to explain all the phenomena of cholera. . . . Apart from all peculiarities of theory on the author's part, the present work will be found to contain a clear and complete account of what is known of cholera, and an acute and instructive criticism of the theories of its nature, which have been propounded by different writers."

From the "Popular Science Review," edited by HENRY LAWSON, M.D., Jan. 1867.

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